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Notice of Allowability	Application No.	Applicant(s)	
	10/667,517	ODA ET AL.	
	Examiner	Art Unit	
	Pamela E Perkins	2822	

-- **The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**
 All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the filing of the application papers on 23 September 2003.
2. ☒ The allowed claim(s) is/are 1-6.
3. ☒ The drawings filed on 23 September 2003 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☒ Certified copies of the priority documents have been received in Application No. 10/275,959.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date <u>9/23/03</u> | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____ |


 AMIR ZAFARIAN
 SUPERVISORY PATENT EXAMINER
 TECHNOLOGY CENTER 2800

DETAILED ACTION

This office action is in response to the filing of the application papers on 23 September 2003. Claims 1-6 are pending.

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

The application has been amended as follows:

Claim 1 has been amended as follows:

1. A method of making
quantum size effect micro particles, characterized in that it comprises the steps
of:
introducing silane into a VHF-band plasma of argon while controlling the time
duration in which the silane is so introduced to form Si single crystal micro particles with
their particle size controlled;
forming on a substrate a layer of such said Si single crystal micro particles so
formed; and
converting respective surface areas of the said Si ~~ingle~~ single crystal ~~macro~~
micro particles in said layer on said substrate into insulating films.

Allowable Subject Matter

Claims 1-6 are allowed.

Reasons for Allowance

The following is an examiner's statement of reasons for allowance: prior art does not anticipate, teach, or suggest a method of making micro particles where silane is introduced into a VHF-band plasma of argon while controlling the time duration in which the silane is so introduced to form Si single crystal micro particles with their particle size controlled; forming on a substrate a layer of such Si single crystal micro particles so formed; and converting respective surface areas of the Si single crystal macro particles in the layer on the substrate into insulating films.

For example, Tazaki et al. (JP 09-007499) disclose a method of making quantum size effect micro particles where helium and oxygen are introduced while controlling the time duration to form micro particles with their particle size controlled; and forming on a substrate a layer of such the micro particles so formed (constitution). However, Tazaki et al. do not disclose, anticipate, teach, or suggest a method of making quantum size effect micro particles where silane is introduced into a VHF-band plasma of argon and converting respective surface areas of the Si single crystal macro particles in the layer on the substrate into insulating films.

Kuribayashi et al. (6,607,593) disclose a method of making micro particles where a high frequency plasma of argon is used to form Si single crystal micro particles with their particle size controlled (col. 1, lines 22-36; col. 6, lines 31-39). However,

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Kuribayashi et al. do not disclose, anticipate, teach or suggest a method of making quantum size effect micro particles where silane is introduced into a VHF-band plasma of argon while controlling the time duration in which the silane is so introduced to form Si single crystal micro particles with their particle size controlled; forming on a substrate a layer of such Si single crystal micro particles so formed; and converting respective surface areas of the Si single crystal macro particles in the layer on the substrate into insulating films.

The prior art made of record in this action does not anticipate, teach, or suggest a method of making quantum size effect micro particles where silane is introduced into a VHF-band plasma of argon while controlling the time duration in which the silane is so introduced to form Si single crystal micro particles with their particle size controlled; forming on a substrate a layer of such Si single crystal micro particles so formed; and converting respective surface areas of the Si single crystal macro particles in the layer on the substrate into insulating films.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pamela E Perkins whose telephone number is (571)


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272-1840. The examiner can normally be reached on Monday thru Friday, 9:00am to 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amir Zarabian can be reached on (571) 272-1852. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PEP


AMIR ZARABIAN
SUPERVISOR, EXAMINER
TECHNICAL CENTER 2800